

**CHAPTER V: MANIPULATIVE AND BODY-BASED THERAPIES:
CHIROPRACTIC AND SPINAL MANIPULATION**

About Chiropractic and Its Use

My topic tonight is manipulative and body-based therapies, chiropractic, and spinal manipulation. What I'm going to do, in a relatively short period of time, is describe the profession of chiropractic a little bit and then describe some of the clinical research on manual mobilization and manipulation. There will be a little bit of a focus on safety and treatment effectiveness.

I am from the Palmer Center for Chiropractic Research. This is in Davenport, Iowa, which was the birthplace of chiropractic. We have a number of research programs there. I started there in 1995 and, over the last 7 ½ years, we developed a number of very interesting programs. Some of the research we do there, I will be talking about tonight but, by no means, all of it. I am going to be talking about some research from many different places around the world. We are the headquarters for the Consortial Center for Chiropractic Research, which is supported by the National Center for Complementary and Alternative Medicine. NCCAM, of course, is one of the co-sponsors of the series, and actually the reason why I'm here.

We have worked on a number of studies in our center—randomized trials and outcome studies. I'm not going to read the slide to you because you can read it faster than I can say and I want to get to some interesting things. But these are the kind of studies that we're involved in right now. In the basic science area, just in the neurophysiology and anatomy section, we are looking at some of these aspects of how the body's physiology works, with respect to manual body-based sorts of therapies. We think what we do in chiropractic, especially the spinal manipulation, has a lot to do with the way many, many body-based therapies actually work, including massage, maybe even some forms of acupuncture. We're not sure at this point but we think what we do, we hope, would be generalized to many different fields in the CAM area.

It all began, as many of you may know, in 1895 with this gentleman named D.D. Palmer. Daniel David Palmer, at the time, was practicing as a magnetic healer, which was during the late part of the 19th century, a very up and coming form of practice. He did not use his hands except maybe an inch or 2 above the body, to focus on areas that he felt were blocked and he would channel the energy and try to unblock that energy. We don't really know for sure, historically, but at some point, he decided that the art of spinal manipulation, which is an ancient form of care, was something that he could do that might enhance the magnetic healing theory that he was developing. Now, this is kind of an interesting picture. One thing about Daniel David Palmer, as we know, is that he was actually quite a well-educated man for a midwestern renaissance kind of guy back around 1890 or so. But I want to point out that he was no slouch at public relations either. You notice all the crutches right here in the corner that all of his patients have thrown away.

His first patient, and this may be an apocryphal story, we're not really sure either, was this gentleman, an African-American gentleman named Harvey Lillard. Harvey was deaf for many years and, as you can see here, the quote is that "Last January, Dr. Palmer treated me on the spine in 2 treatments. I could hear quite well." This has always been the seminal establishment story so we say, the myth, the credo, the start of the profession, and this story has been handed down over the generations. So, Palmer decided to professionalize the art of spinal manipulation.

He started the Palmer School of Chiropractic in 1897 in Davenport, Iowa. His theory integrated a lot of natural health ideas, which were common back then, with then very scientific models of how the nervous system was supposed to work, and a lot of these things are machine metaphors and tone. He combined a vitalistic concept with these mechanistic explanations because back then, the holy grail of scientific evolution was to try to merge 2 different streams of thought—one vitalistic in nature and one more mechanistic in nature. I think today, we're still struggling with these 2 forms of thought, and there are many people today trying to put those 2 things together, and it is a very complicated sort of thing.

He also eschewed the use of drugs in surgery as unnatural invasions to the body. He felt that his real job was to enhance the body's innate healing ability, and that that's the best that any physician should really do. His goal then, specifically, was to try to normalize the function of the nervous system under the idea that the nervous system was the primary, controlling system of the body. This was a compelling theory. So compelling that 3 generations of the Palmer family basically worked together to create the profession of chiropractic, not without a lot of controversy and a lot of personality battles and ego involvement. You see D.D. Palmer on the right, B.J. Palmer on the left, your left, and the grandson, David Palmer. In fact, to this very day, the great-granddaughter of D.D. Palmer, Vicky Palmer, is the Chairman of the Board of Trustees of Palmer College, so the family still has a role in this profession.

In the 1930s and 1940s, interestingly enough, there were even such things as chiropractic hospitals. This one was the Spears Hospital in Denver, Colorado. I found this picture a couple of days ago and I thought I'd throw it in here just for historical reasons. It was quite a large and growing concern back then. Some other milestones were that in 1905, Minnesota was the first state to license chiropractors. In 1933, the Council of State Examiners was formed to unify license standards. In 1944, a foundation was formed for chiropractic education and research, which, to this day, exists and funds chiropractic research as a private foundation. In 1963, the National Board of Chiropractic Examiners created the standardized testing across state lines.

Then in 1975, which was what I really think is a watershed event in the history of the science of spinal manipulation, the National Institute for Neurological Disorders and Stroke convened a meeting, under the leadership of Marie Goldstein, who today is on the council of NCCAM, in fact, to look at the research status of what you call spinal manipulative therapy. That led to a monograph, which is now out of print, but it really is the beginning of the science of spinal manipulation. Because the conclusion at that time was that there were no data to support the use of this procedure, that chiropractors were using primarily other people too. There weren't any data either, to say that it didn't have

some clinical effect. It just was simply an underground folk art that no one, up until 1975, really took seriously in the scientific community. That wasn't all that long ago.

Then in 1976, the profession founded the *Journal of Manipulative Physiological Therapeutics*, a peer-reviewed journal. It became indexed at the National Library of Medicine and is still, to this day, our best journal. Then in 1987, the Supreme Court found that the American Medical Association was guilty of antitrust violations for trying to destroy the profession of chiropractic. This was an 11-year long trial that was extremely controversial and was a landmark trial at the time—it still is having its affect. It has changed the attitude in the way that the medical profession and all CAM professions interact together. I think this lawsuit and this trial had a lot to do with what we're seeing today, which is this developing concept we're calling integrative medicine and I think that patients are the biggest beneficiaries of this.

Then in 1994, the Agency for Health Care Policy and Research, a U.S. agency, rated spinal manipulation as one of the more effective treatments for low back pain. And this was a function of the amount of science that had been done between 1975 and the early 1990s. Then in 1997, and the reason that I'm here, the NIH established the Consortial Center for Chiropractic Research at Palmer, and I was charged with the responsibility of trying to lead that whole effort into the next century. Just recently last year, both the Veterans Administration and the Department of Defense have moved to include chiropractic services as part of its regular health care system. So, a lot of things have happened and the attitudes have really changed—definitely for the better, definitely for the patient's sake. Today, in this one survey done in North Carolina of primary care medical physicians, 2/3 of them felt moderately or very informed about chiropractic, and 100% of the chiropractors surveyed refer to family physicians and about 2/3 of family physicians refer patients to chiropractors. This would not have happened 10, certainly not 20 or 30, years ago.

Today, the chiropractic license for an education is based on a 4- to 5-year curriculum—with an emphasis on biomechanics, musculoskeletal function, and manual treatment

skills—in the schools, of which there are 16 in the United States and 2 in Canada and about 18 around in the rest of the world now. They are accredited by the Department of Education, and the National Board oversees 4 different national board examinations for graduates. Each state licenses their own, and continuing education is required in 48 of the 50 states to maintain licensure every year.

I very much focused on the musculoskeletal system as you might imagine. What you may not know is just how important back symptoms, low back symptoms, headache, all those kinds of things, are. These are within the top 10 chief complaints to medical physicians. Sprain/strains of the back, arthritis, these kinds of diagnoses are among the top 10 diagnoses to physicians. All this costs our society, in the U.S. here, somewhere around \$50 billion. There are some estimates that say it could be as much as \$100 billion a year in treatment cost, in disability, lost time at work, and productivity, and so forth.

It may be because this is such a large pervasive problem in our society, that it's basically not been very well studied and has been largely ignored; back pain, in fact, is the single most prevalent complaint in all of CAM practices, but particularly in chiropractic. In fact, it represents over 90% of the caseload in total. Low back is about 1/2 of it, and we know that about 1/2 to 2/3 of our patients now use chiropractors in a primary care mode. In other words, they go to chiropractors first with the problem. We also know from other surveys that about 1/2 of those conditions are chronic in nature. So these are generally people that have had an ongoing problem that they would like to get rid of. I know they'd like to know how to live with it.

Case management by a chiropractor is very similar to what you'd see from any kind of health care provider, except that chiropractors do provide over 90% of this form of manual manipulation, mobilization in the U.S. But we also use exercise and rehabilitation methods, physical therapy modalities, and we talk about lifestyle, nutrition, fitness, prevention, and health promotion. All this has led to an encounter that has been noted by anthropologists, where we tend to have a health orientation. We talk about enhancing natural healing ability, which we are all born with, to some degree or another,

a person-centered, strong doctor-patient relationship, a focus on musculoskeletal dysfunctions. Hands-on treatments, kind of a high-touch, low-tech approach to care. We tend to get very high patient satisfaction rates.

All this has led to the kind of use rates that we're experiencing now. A recent study, this one in 1999 by Dave Eisenberg at Harvard, reported almost 200 million patient visits per year to a chiropractor, and about 30% of all the visits to all CAM providers are to chiropractors. This has tripled in the last 2 decades. Chiropractors now see about 10% to 15% of the population in the U.S. annually. If we were to take a survey, if this is a typical crowd, probably 1/2 of you have been to a chiropractor at some point in your life.

The most interesting recent survey, this out just a couple of months ago now, was entitled, *Patterns and Perceptions of Care for Treatment of Back and Neck Pain: Results of a National Survey*. It kind of demonstrates the impact of the CAM-provider community on this particular condition in the U.S. They looked at, in a telephone survey, a random selection of the U.S. population, and found that of those who had back or neck pain, about 30% did not go to any kind of doctor or any kind of provider, they just handled it on their own. About 37% saw a so-called conventional provider. But the rest went to some CAM provider: 20% to a chiropractor; 14% to massage; and about 1% to acupuncture.

They asked the patients how helpful do you think these therapies were, and I'm not here to suggest that they are necessarily telling us the truth in the same way that a randomized controlled trial would tell us, because they don't. These results would need to be confirmed in those trials, and I'm going to talk about randomized trials in a minute. But 61% of the chiropractor patients said it was very helpful, 65% for massage. As you can see here, a little less than 30% were satisfied with the care they got from the conventional provider. This indicates, just on the surface of it, that there's a lot to be learned between the professions and among the professions. We need to work together to figure out just what we can do about this pretty pervasive problem that costs us a lot of money.

So, chiropractic today is actually the oldest, indigenous CAM profession in the U.S. It's the third largest doctorate in the U.S. health profession. It's the most regulated and the most recognized of the CAM professions. It's used more than other CAM providers by patients, and it has developed a substantial niche despite some historical adversity.